FED-202 Audio Spectrum Indicator DIY Kit

1.Introduction:

FED-202 is a Audio Spectrum Indicator DIY Kit. It can display in Red/Green/Blue according to the input audio signal from microphone.It can be used to display the intensity of audio.The number of LED displayed changes according to the intensity of the audio.

2.Feature:

1>.78pcs highlight LED
2>.Perfect simple circuit
3>.Automatic flashing
4>.DIY hand soldering
5>.Adjustable sensitivity

3.Parameter:

1>.Product Name:FED-202 Audio Spectrum Indicator DIY Kit
2>.Product Number:FED-202
3>.Work Voltage:DC 3V-12V
4>.Work Current:120mA
5>.Power Type:3.5mm Power Socket
6>.Work Mode:Switch Control
7>.Color:Red+Green+Blue LED
8>.Work Temperature:-40℃~85℃
9>.Work Humidity:5%~85%RH
10>.Size(Installed):253*20*30mm

4.Component Listing:

NO.	Component Name	PCB Marker	Parameter	QTY
1	Metal Film Resistor	R1,R2	1Kohm	2
2	Metal Film Resistor	R4,R5	3Kohm	2
3	Metal Film Resistor	R6-R8	10Kohm	3
4	Metal Film Resistor	R9,R10	100Kohm	2
5	Metal Film Resistor	R11	1Mohm	1
6	Ceramic Capacitor	C3-C7	0.1uF 104	5
7	Electrolytic Capacitor	C8,C9	2.2uF	2
8	Electrolytic Capacitor	C1,C2	100uF	2
9	1N4148 Diode	D0	DO-35	1
10	S8050 Transistor	Q1,Q2	TO-92	2
11	LM3914 Driver IC	U1,U2	DIP-18	2
12	IC Socket	U1,U2	DIP-18	2
13	Microphone	MIC	9*7mm	1
14	3.5mm Audio Socket	JK1	5Pin	1
15	Power Supply Socket	CN0	DC3.5*1.3mm	1
16	Potentiometer	VR1	100Kohm	1
17	Toggle Switch	SW1	SS12D07	1
18	Female Socket 1*6Pin	CN1-CN4,CN*	2.54mm	5
19	Male Pin 1*6Pin	CN1'-CN4',CN*'	2.54mm	5
20	Red LED	D1,D4,D7,D10,D13,D16,D19	5mm	30

21	Green LED	D2,D5,D8,D11,D14,D17,D20	5mm	30
22	Blue LED	D3,D6,D9,D12,D15,D18	5mm	30
23	USB to 3.5mm Power Cable		70cm	1
24	Audio Cable		50cm	1
25	PCB FED-202MAIN	PB00121	140*20*1.6mm	1
26	PCB FED-202LED	PB00123	253*20*1.6mm	1
Note:Users can complete the installation according to the PCB silk screen and component list.				

5.Application:

1>.Training welding skills
2>.Student school
3>.DIY production
4>.Project Design
5>.Electronic competition
6>.Gift giving
7>.Crafts collection
8>.Home decoration
9>.Souvenir collection
10>.Graduation design
11>.Holiday gifts

6.Installation Tips:

1>.User needs to prepare the welding tool at first.
2>.Please be patient until the installation is complete.
3>.The package is DIY kit.It need finish install by user.
4>.The soldering iron can't touch the components for a long time(1.0 second), otherwise it will damage the components.
5>.Pay attention to the positive and negative of the components.
6>.Strictly prohibit short circuit.
7>.User must install the LED according to the specified rules.Otherwise some LED will not light.
8>.Install complex components preferentially.
9>.Make sure all components are in right direction and right place.
10>.Check that all of the LED can be illuminated.
11>.It is strongly recommended to read the installation manual before starting installation!!!
12>.Please wear anti-static gloves or anti-static wristbands when installing electronic components.

7.Installation Steps(Please be patient install!!!):

1>.Step 1: Install 1pcs DO-35 1N4148 Diode at D0.The black mark is negative pole.
2>.Step 2: Install 2pcs 1Kohm Metal Film Resistor at R1,R2.
3>.Step 3: Install 2pcs 3Kohm Metal Film Resistor at R4,R5.
4>.Step 4: Install 3pcs 10Kohm Metal Film Resistor at R6-R8.
5>.Step 5: Install 2pcs 100Kohm Metal Film Resistor at R9,R10.
6>.Step 6: Install 1pcs 1Mohm Metal Film Resistor at R11.
7>.Step 7: Install 5pcs 0.1uF 104 Ceramic Capacitor at C3-C7.
8>.Step 8: Install 1pcs DIP-18 IC Socket at U1,U2.There is a mark on one end of the IC Socket and there is a mark on PCB where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.
9>.Step 9: Install 1pcs DC3.5*1.3mm Power Supply Socket at CN0.
10>.Step 10: Fix the power socket with the extra pins of the resistor.

11>.Step 11: Install 1pcs 5Pin 3.5mm Audio Socket at JK1

12>.Step 12: Install 2pcs TO-92 S8050 Transistor at Q1,Q2.

13>.Step 13: Install 2pcs 100uF Electrolytic Capacitor at C8,C9.Pay attention to distinguish between positive and negative.The Longer pin is positive pole.The longer pin is inserted into the rectangular pad.

14>.Step 14: Install 2pcs 2.2uF Electrolytic Capacitor at C1,C2.Pay attention to distinguish between positive and negative.The Longer pin is positive pole.The longer pin is inserted into the rectangular pad.

15>.Step 15: Install 1pcs 9*7mm Microphone at MIC1.The marked pin is negative pole.

16>.Step 16: Install 5pcs 2.54mm Female Socket 1*6Pin at CN1-CN4,CN*.

17>.Step 17: Install 1pcs DIP-18 LM3914 Driver IC at U1,U2.There is a mark on one end of the IC and there is a mark on PCB where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC.

18>.Step 18: Install 1pcs SS12D07 Toggle Switch at SW1.

19>.Step 19: Install 1pcs 100Kohm Potentiometer at VR1.

20>.Step 20: The longer pin is inserted into the rectangular pad(positive pole). The shorter pins are inserted into the oval pads.

21>.Step 21: Install 30pcs 5mm Green LED at G.

22>.Step 22: Install 30pcs 5mm Blue LED at B.

23>.Step 23: Install 30pcs 5mm Red LED at R.

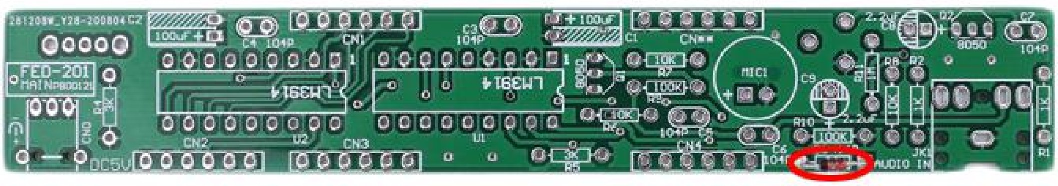
24>.Step 24: Install 5pcs 2.54mm Male Pin 1*6Pin at CN1-CN4,CN*.

25>.Step 25: Assemble 2pcs PCB.

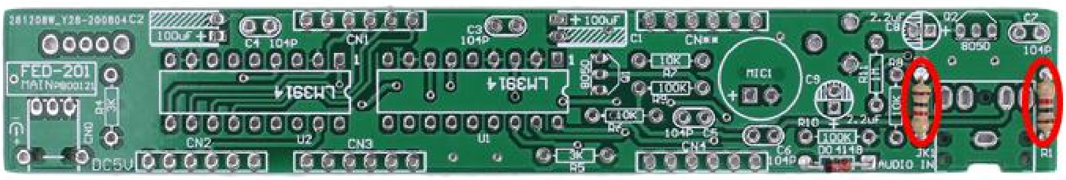
26>.Step 26: Connect to power supply and enjoy the effect.

8.Install shown steps:

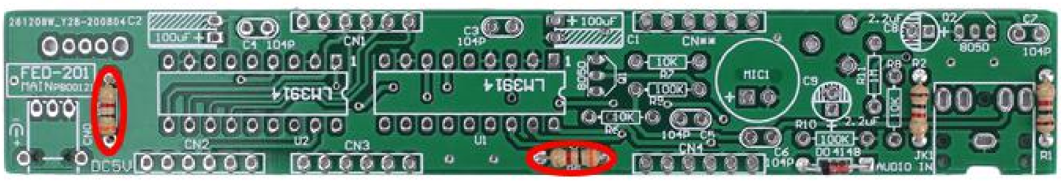
Step 1: Install 1pcs DO-35 1N4148 Diode at D0.The black mark is negative pole.



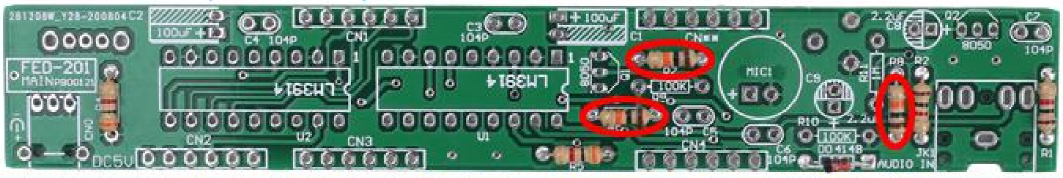
Step 2: Install 2pcs 1Kohm Metal Film Resistor at R1,R2.



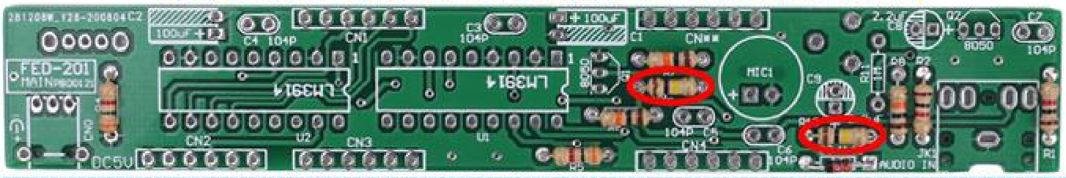
Step 3: Install 2pcs 3Kohm Metal Film Resistor at R4,R5.



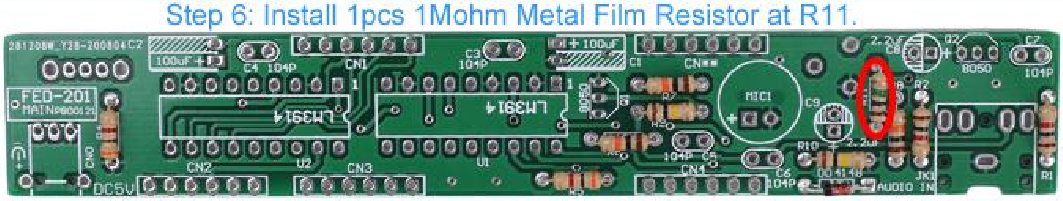
Step 4: Install 3pcs 10Kohm Metal Film Resistor at R6-R8.



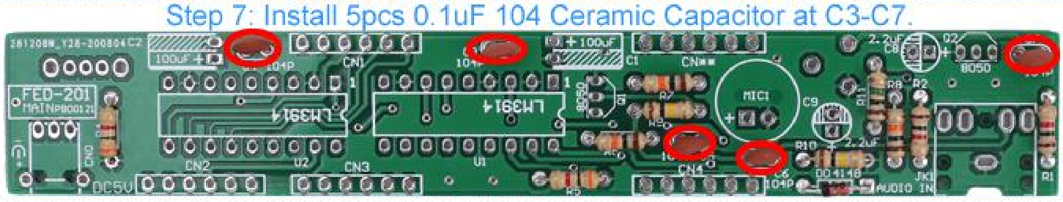
Step 5: Install 2pcs 100Kohm Metal Film Resistor at R9,R10.



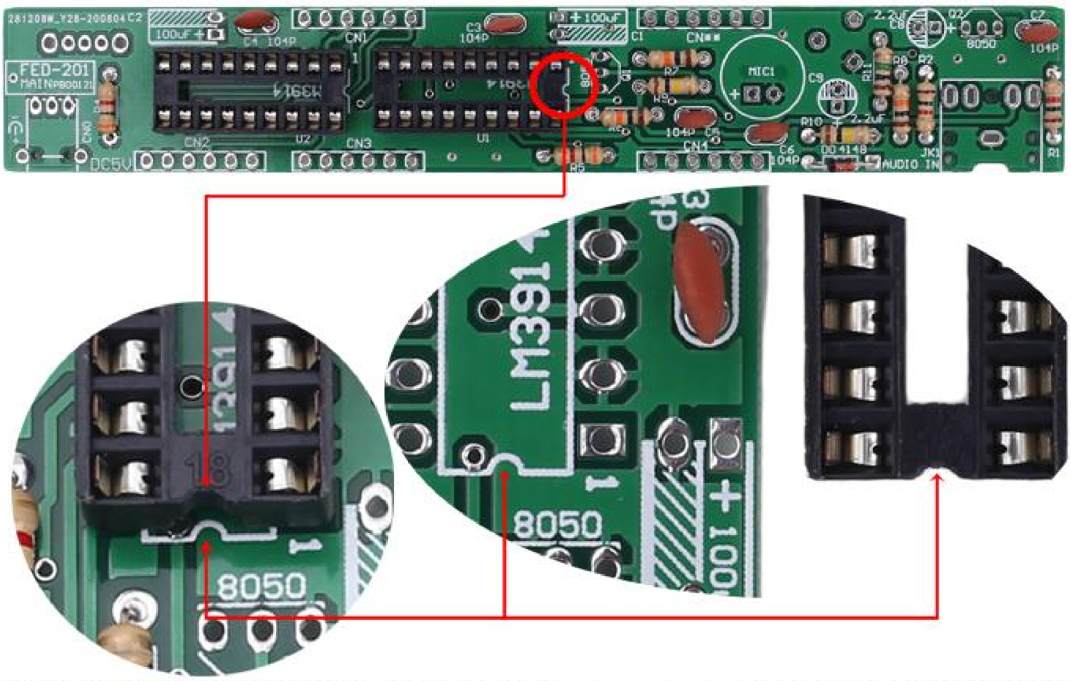
Step 6: Install 1pcs 1Mohm Metal Film Resistor at R11.



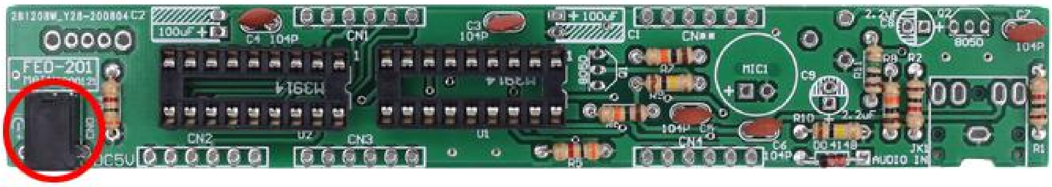
Step 7: Install 5pcs 0.1uF 104 Ceramic Capacitor at C3-C7.

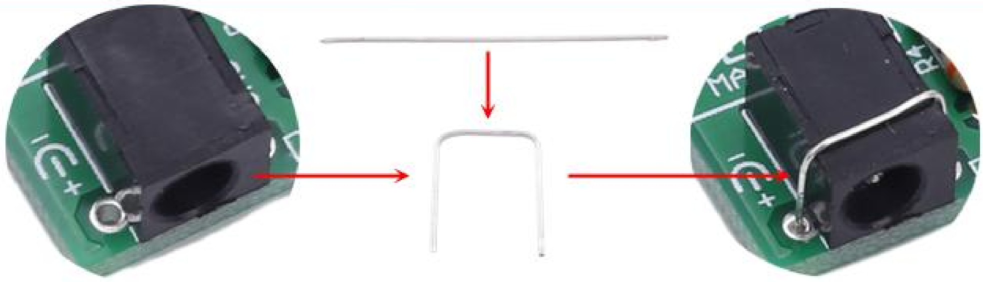


Step 8: Install 1pcs DIP-18 IC Socket at U1,U2.There is a mark on one end of the IC Socket and there is a mark on PCB where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC Socket.

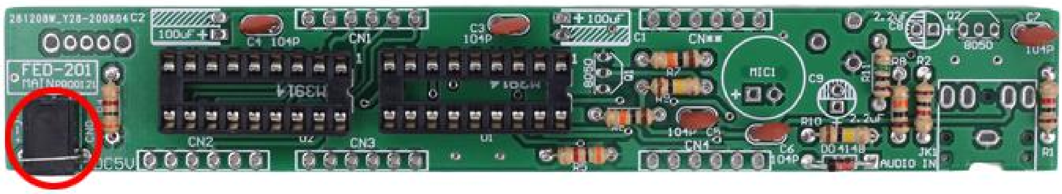


Step 9: Install 1pcs DC3.5*1.3mm Power Supply Socket at CN0.

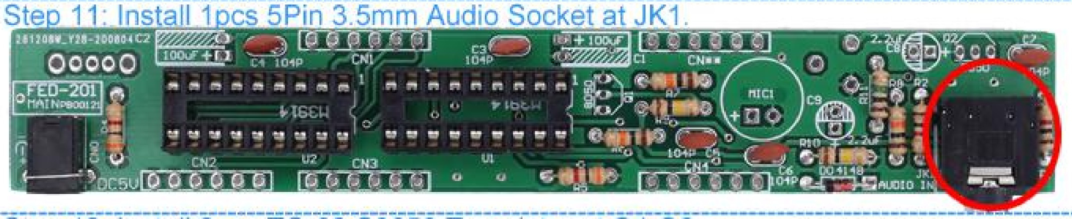




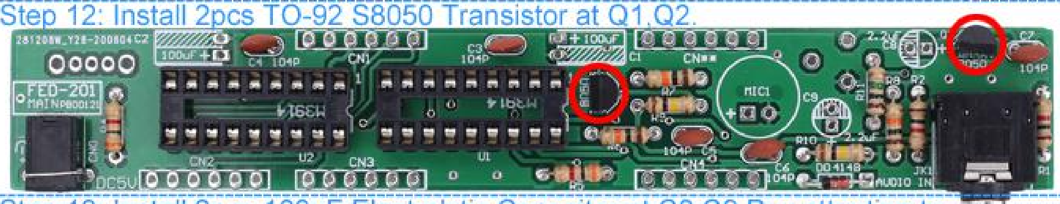
Step 10: Fix the power socket with the extra pins of the resistor.



Step 11: Install 1pcs 5Pin 3.5mm Audio Socket at JK1.



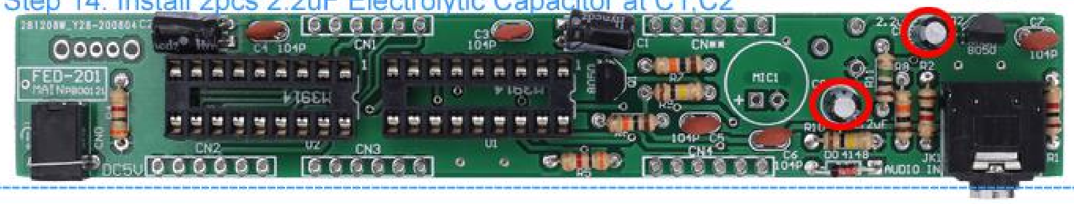
Step 12: Install 2pcs TO-92 S8050 Transistor at Q1,Q2.



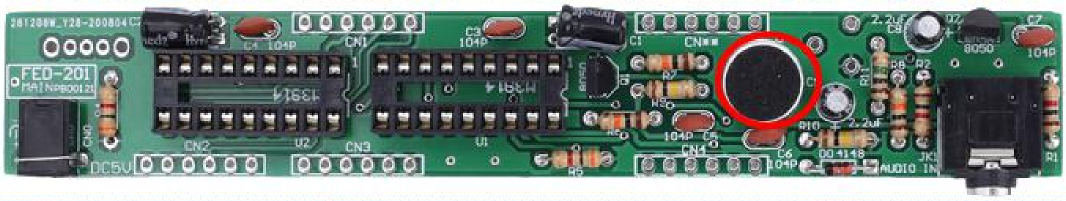
Step 13: Install 2pcs 100uF Electrolytic Capacitor at C8,C9.Pay attention to distinguish between positive and negative.The Longer pin is positive pole.

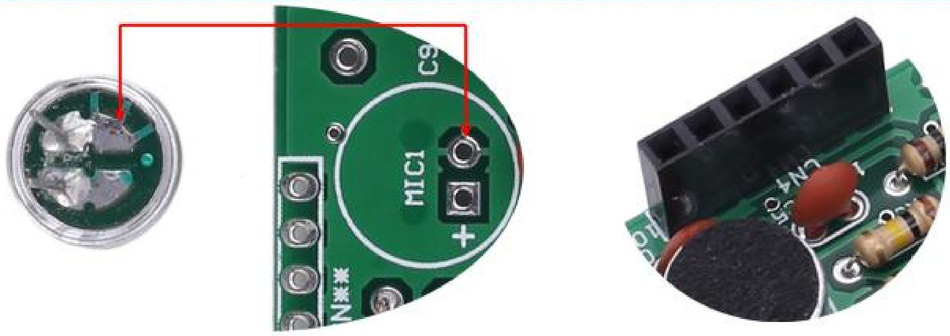


Step 14: Install 2pcs 2.2uF Electrolytic Capacitor at C1,C2

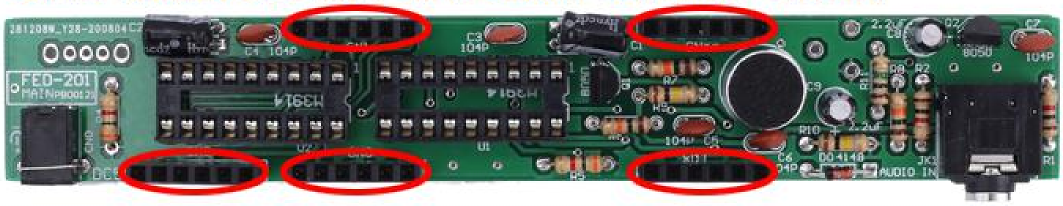


Step 15: Install 1pcs 9*7mm Microphone at MIC1.The marked pin is negative pole.





Step 16: Install 5pcs 2.54mm Female Socket 1*6Pin at CN1-CN4,CN*.

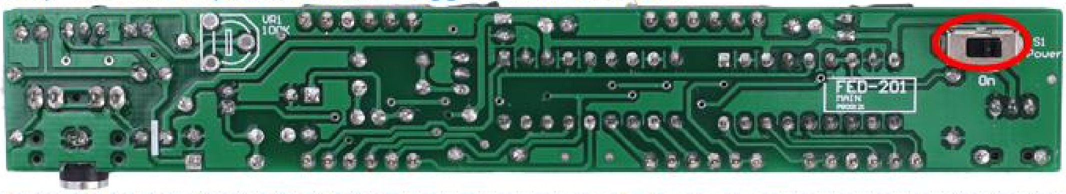


Step 17: Install 1pcs DIP-18 LM3914 Driver IC at U1,U2.There is a mark on one end of the IC and there is a mark on PCB where the IC can place on.These two marks are corresponding to each other and are used to specify the installation direction of the IC.

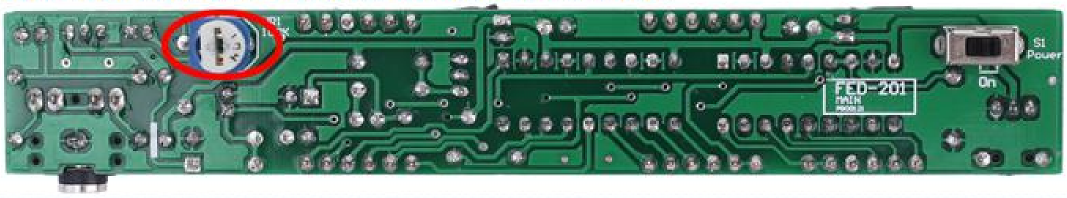




Step 18: Install 1pcs SS12D07 Toggle Switch at SW1.



Step 19: Install 1pcs 100Kohm Potentiometer at VR1.

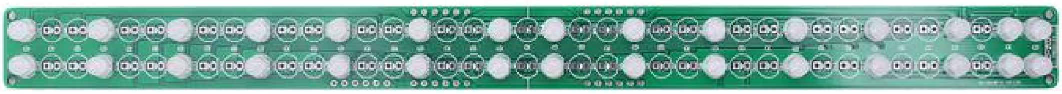


Step 20: The longer pin is inserted into the rectangular pad(positive pole).

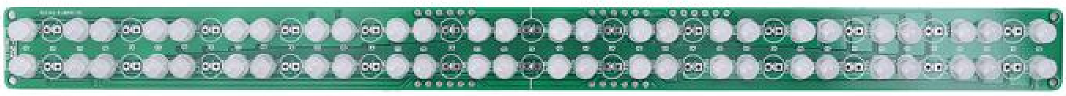
The shorter pins are inserted into the oval pads.



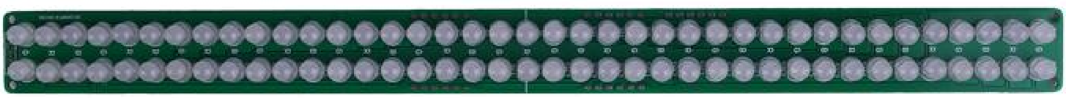
Step 21: Install 30pcs 5mm Green LED at G.



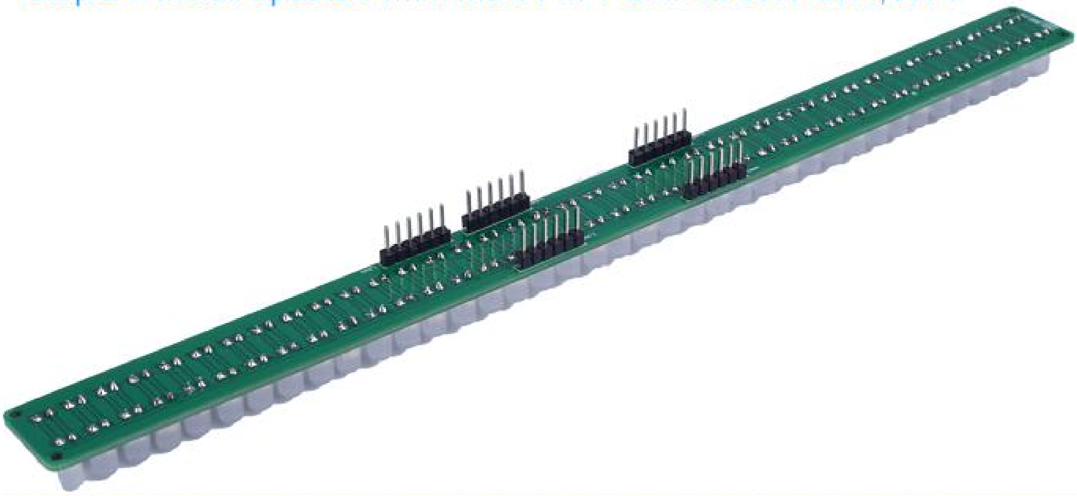
Step 22: Install 30pcs 5mm Blue LED at B.



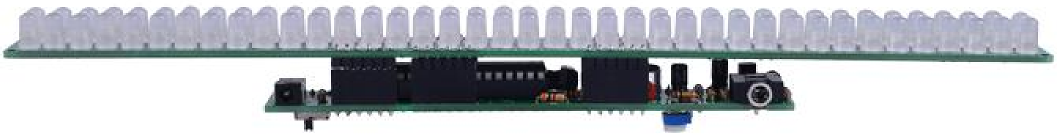
Step 23: Install 30pcs 5mm Red LED at R.



Step 24: Install 5pcs 2.54mm Male Pin 1*6Pin at CN1-CN4,CN*.



Step 25: Assemble 2pcs PCB.



Step 26: Connect to power supply and enjoy the effect.





